

**OCCUPATIONAL SAFETY
AND HEALTH STANDARDS BOARD**

2520 Venture Oaks Way, Suite 350

Sacramento, CA 95833

(916) 274-5721

FAX (916) 274-5743

Website address: www.dir.ca.gov/oshsb**FINAL STATEMENT OF REASONS****CALIFORNIA CODE OF REGULATIONS****TITLE 8: Chapter 4 Subchapter 15, Article 5, Section 6777
of the Petroleum Safety Orders****Hot Work Permits****MODIFICATIONS AND RESPONSE TO COMMENTS RESULTING FROM
THE 15-DAY NOTICE OF PROPOSED MODIFICATIONS**

No further modifications to the information contained in the Initial Statement of Reasons are proposed as a result of the 15-day Notice of Proposed Modifications mailed on June 14, 2004, and Board staff evaluation.

**MODIFICATIONS AND RESPONSE TO COMMENTS RESULTING FROM
THE 45-DAY PUBLIC COMMENT PERIOD**

There are no modifications to the information contained in the Initial Statement of Reasons except for the following substantive, sufficiently related modifications that are the result of public comments and/or Board staff evaluation.

Section 6777(a)(1)(E)

A modification is proposed to relocate the exemption covered under subsection (a)(1)(E), which exempts certain areas of a facility from the requirements of Section 6777, and renumber the subsection as (a)(2)(C). The modification would require hot work operations in areas that meet the conditions of the exemption to comply with the hot work procedures in subsections (b), (c), and (d), but would not be subject to the hot work permit requirements in subsections (e) through (i). The modification is necessary to ensure that employers meet existing hot work safety procedures, particularly monitoring for flammable vapors when the concentration may reasonably be expected to exceed 20 percent of the lower explosive limit (LEL), without burdening them with unnecessary permit requirements. The modification is also necessary to ensure that the standard is consistent with current industry practice.

Summary and Response to Written and Oral Comments:**I. Written Comments:**

Elizabeth A. Treanor, Director, Phylmar Regulatory Roundtable, by letter dated April 15, 2004.

Comment 1:

Ms. Treanor stated that the Phylmar Regulatory Roundtable (PRR) supports the intent of limiting the exemption from the requirement for a Hot Work Permit to only fixed fired equipment that is in operation. Ms. Treanor noted that the Board clearly sees that there is a potential for the release of flammable liquids or vapors from fixed fired equipment that is shut down for maintenance but may still contain product or fuel gas in the piping associated with the fired equipment. Ms. Treanor stated that the PRR, however, recommends that the language of this section be revised as follows for clarity:

(a)(1)(A) Fixed fired equipment while in operation.

Response:

Ms. Treanor is correct in recognizing that it is the Board's intent to limit the operations that qualify for exemption under subsection (a)(1)(A) such that fixed fired equipment is only exempt while it is in operation. The Board's proposal would revise the current language as follows (bold added for emphasis):

§6777(a)

* * * * *

(1) The following operations are exempt from the requirements of this section:

~~(1)(A) In connection with~~ The operation of fixed fired equipment.

The Board believes that the proposed language is sufficient to make it clear to the reader that the exemption applies only to the operation of the equipment and not to maintenance activities.

Comment 2:

Ms. Treanor noted that Section 6777(a)(1)(E) exempts areas meeting the following conditions from the need to comply with these requirements:

- (a) Free of flammable liquids, vapors and gases except as may be required for necessary activities when safely used, handled and stored; and
- (b) Effectively protected against the possibility of flammable oils, liquids, vapors or gases being liberated within the area from pipe lines, sewers, drains or ditches.

Ms. Treanor stated that the PRR is concerned that under (a), in the absence of testing, individuals could determine that the potential sources of flammable liquids and vapors are isolated, so the area is "free" of flammable liquids and vapors, and a hot work permit is not required. Ms. Treanor noted that this could have severe consequences.

Also, Ms. Treanor stated that the PRR questions how one could determine that the area is "effectively protected" against the possible liberation of flammable liquids and vapors if one does not conduct testing. Ms. Treanor stated that typical industry hot work procedures require that testing be conducted to verify that the area is, in fact, free of the flammable vapors and liquids.

Ms. Treanor stated that the permit process assures that an area is free from flammable liquids and vapors. She stated that the PRR recommends that all of the required practices and procedures in this section apply to these situations, and that if there is an exemption, it apply only to the documentation of the hot work permit.

Response:

Ms. Treanor refers to only two of the four conditions that must be met in order for the area to be exempt from the standard per subsection (a)(1)(E), which requires that all of the conditions of the subsection must be met. The other two conditions are:

- (a)(1)(E) 2. The area is posted in a manner to define the boundaries.
- (a)(1)(E) 3. The area has a warning system to alert employees to eliminate ignition sources in the event of an emergency.

The chief concern expressed by Ms. Treanor is that employers are not required to monitor for flammable vapors to determine that: 1) the area is free from flammable vapors, and 2) the area is effectively protected from flammable vapors entering the area. These are only two of the four conditions that must be met in order to be eligible for an exemption from the standard under subsection (a)(1)(E). Ms. Treanor recommends that the exemption be deleted, or at a minimum, the exemption should only relieve the employer from the requirements related to hot work permits so that the employer must still comply with the requirements related to hot work procedures. The latter would be accomplished by relocating the exemption under subsection (a)(2), which states, "The following operations need only comply with the hot work safety procedures in subsections (b), (c), and (d)." The employer would then be required to monitor for flammable vapors under subsection (b) when the concentration may reasonably be expected to exceed 20 percent of the lower explosive limit (LEL).

The Board agrees that it is typical industry practice to monitor areas where flammable vapors may be present before hot work is begun. The proposal would revise the current standard to be more consistent with industry practice. The current standard merely requires the employer to determine that a source of ignition may be safely used. Revised subsection (b) specifically requires monitoring under certain conditions. On the other hand, there may be areas in a facility, subject to the provisions of Section 6777, where there are no flammable vapors present and there is no potential for flammable vapors being released in the area because all sources of the vapors are effectively contained and/or are so remote that a system can be used to warn of their release. Mandating flammable vapor monitoring and a permit for hot work in these areas would be an unnecessary burden on the employer. The Board believes that the employer needs some flexibility in determining where to conduct flammable vapor monitoring.

The above notwithstanding, the concerns expressed by Ms. Treanor have merit. Proposed subsection (a)(1)(E) does not require the employer to monitor an area to determine if it is free of flammable vapors and eligible for exemption from the standard. The exemption might hinder or prevent compliance or enforcement of subsection (b), which requires monitoring when flammable vapors may exceed 20 percent of the LEL.

The Board agrees with Ms. Treanor's recommendations to the extent that the exemption covered under subsection (a)(1)(E) should be relocated and renumbered as subsection (a)(2)(C). As a result of this revision, areas that meet the conditions of the exemption would be required to comply with the hot work procedures in subsections (b), (c), and (d), but would not be subject to the hot work permit requirements in subsections (e) through (i).

Comment 3:

Ms. Treanor stated that in Section 6777(b)(3), the term "lower explosive limit" is deleted and replaced with the acronym "LEL." Ms. Treanor stated that the PRR recommends that for technical accuracy and consistency with the National Fire Protection Association (NFPA), the Board delete all references to the lower explosive limit and/or LEL. Ms. Treanor noted that "The Flammable & Combustible Liquids Code," NFPA 325, lists LFLs/UFLs (lower and upper flammable limits) for many compounds; in its definition of "Fire Hazard Properties," it states the following:

"The range of flammable vapor or gas-air mixture between the upper and lower flammable limits is known as the "flammable range," also referred to as the "explosive range"... No attempt is made to differentiate between the terms "flammable" and "explosive" as applied to the lower and upper limits."

Ms. Treanor stated that since the NFPA uses the term "upper/lower flammable limit", and California recently adopted the NFPA set of fire and building codes, the PRR recommends that Cal/OSHA do so as well.

Response:

The term(s) "flammable (explosive) limits" are defined in General Industry Safety Orders (GISO) Section 5415. The GISO is consistent with the NFPA in that the GISO also makes no attempt to differentiate between the terms "flammable" and "explosive" as applied to the lower and upper limits. In Title 8 of the California Code of Regulations, which contains occupational safety and health standards, the term "flammable limit" is used fourteen times, while the term "explosive limit" is used thirty eight times.

Since Board staff is currently working on a project to reorganize the Cal/OSHA standards in Title 8, which includes improving consistency between the standards, staff will consider Ms. Treanor's recommendation as part of that endeavor. However, the Board believes it is unnecessary to modify this rulemaking proposal to substitute "flammable range" for "explosive range," because it is generally accepted that the two terms are interchangeable.

The Board thanks Ms. Treanor for her comments and participation in the Board's rulemaking process.

II Oral Comments:

Oral comments received at the April 15, 2004 Public Hearing in San Diego, California.

Elizabeth A. Treanor, Director, Phylmar Regulatory Roundtable.

Comment:

Ms. Treanor's oral comments were the same as those expressed in her letter dated April 15, 2004, which are summarized above.

Response:

See the above responses to Ms. Treanor's written comments.

ADDITIONAL DOCUMENTS RELIED UPON

None

ADDITIONAL DOCUMENTS INCORPORATED BY REFERENCE

None.

DETERMINATION OF MANDATE

This regulation does not impose a mandate on local agencies or school districts as indicated in the Initial Statement of Reasons.

ALTERNATIVES CONSIDERED

The Board invited interested persons to present statements or arguments with respect to alternatives to the proposed regulation. No alternative considered by the Board would be more effective in carrying out the purpose for which the action is proposed or would be as effective and less burdensome to affected private persons than the adopted action.